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**BETWEEN INTEREST RATES AND FINANCIAL
FIRMS LISTED AT THE NAIROBI SECURITIES
EXCHANGE**

BY

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REG: D61/68252/2011

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE CONFERMENT OF THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI**

OCTOBER, 2013

DECLARATION

This research project is my original work and has not been presented for a degree or any other award in any institution.

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I wish to acknowledge the almighty God for his providence and sustenance throughout the study period.

I am especially grateful to my family members and all my friends for their moral support and constant encouragement during the research period.

I also take this opportunity to acknowledge the professional guidance of my supervisor Mr. Joseph Barasa in undertaking this research project.



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DEDICATION

I dedicate this research project to my family and all my friends for the love and encouragement they have accorded me always.



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ABSTRACT

The main purpose of the study was to assess the nature of the relationship between interest rates and financial performance of firms listed at the Nairobi Securities Exchange. The study is significant to the government in setting interest rates appropriate to influence the level of borrowing and lending to encourage economic development. The study will guide firms in making informed decision on borrowing and lending to influence the financial performance of their firms positively, while investors can use the results obtained from the research to make decisions on which sectors of the economy to invest in at different levels of interest rates. The study covered five years from 2008 to 2012 inclusive and the research was based on secondary data obtained from published financial statements of the firms and publications by the Central Bank of Kenya. The causal research design was employed to assess the nature of the relationship between interest rates and financial performance of firms listed at the Nairobi Securities Exchange. Regression analysis was used to assess the nature of the relationship. Results obtained from the study indicated a not significant positive relationship between interest rates and financial performance. On disaggregation and grouping of the firms to their respective industries, it was found that linear regression model can selectively be used to forecast financial performance of firms at given levels of interest rates for firms where statistically significant relationship was found. However, for firms which on further analysis it was found that the effect of interest rates on financial performance was not significant, other factors which influence financial performance need to be considered and enhanced in order to significantly improve the financial performance of those firms.



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T OF ABBREVIATIONS

CBK	:	Central Bank of Kenya
CMA	:	Capital Markets Authority
NSE	:	Nairobi Securities Exchange
ROE	:	Return on Equity
ROI	:	Return on Investment

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Interest rate has a wide and varied impact upon the economy. When it is raised, the general effect is to lessen the amount of money in circulation, which works to keep inflation low. It also makes borrowing money more expensive, which affects how consumers and businesses spend their money; increases expenses for companies, lowering earnings somewhat for those with debt to pay; and, finally, it tends to make the stock market a slightly less attractive place to investment (Saunders and Cornett, 2008).

High interest rates are likely to curb business investments and innovation. Rising interest rates could also increase loan defaults in the banking system and bank vulnerability, drive the cost push inflation due to medium term increase in prices associated with higher costs of business financing (Central Bank of Kenya (CBK), 2012). When banks make borrowing more expensive, companies might not borrow as much and will pay a higher rate of interest on their loans. Less business spending can slow down the growth of a company, resulting in decreases in profit. Securities of firms making continuous losses usually suffer from price decline (Kisaka, 1999). Conversely, if business and household spending declines to the extent that the Central Bank finds it necessary to stimulate the economy, it allows interest rates to fall (an expansionary monetary policy). The drop in rates promotes borrowing and spending (Saunders and Cornett, 2008). The lower interest rates give companies an opportunity to borrow money at lower rates, which allows them to expand their operations and also their cash flows. When interest rates are declining, the economy is expanding in



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associated with investing in a long-term corporate bond is (Berk, DeMarzo and Harford, 2009).
s and Cornett, 2008).

In a low interest rate regime, companies are able to increase profitability by reducing their interest expenses. However, in a rising interest rate regime, since interest expenses rise, profitability is lowered. Thygerson, (1995) found that calculating the inherent value of a company by the cash flow discounting model yields a two-fold impact. There is a reduction in the cash flows due to lower profitability, and a higher discounting rate due to higher interest rate regime. This leads to a relatively lower intrinsic value of the company.

Interest rates affect firm's incentive to raise capital and invest (Berk, DeMarzo and Harford, 2009). This is because higher interest rates tend to shrink the set of positive NPV investments available to firms. Central banks use this relationship between interest rates and investments when trying to guide the economy. They lower interest rates in attempts to stimulate investment if the economy is slowing, and they will raise interest rates to reduce investment if the economy is overheating and inflation is on the rise (Berk, DeMarzo and Harford, 2009).

When interest rates rise, investors move from equities to bonds and when interest rates fall, returns on bonds fall while the returns on equities tends to look relatively more attractive and the migration of fund from bonds to equities take place thereby increasing the prices of equities (Auerabach, 1988).

Prevailing interest rates affects the financial performance of firms as have been observed in various researches and since interest rates is a major factor considered in many financial planning decisions, the objective of the study is to assess the nature of the relationship between interest rates and financial performance of the firms listed at

change. The results will be useful to the government in management of a firm will be able to make informed decision on borrowing and lending; and investors can use the results obtained from the research to make decisions on which sectors of the economy to invest in at different levels of interest rates.

1.1.1 Interest rates

Simply put, interest rates refer to borrower's cost on a loan and the lender's reward on investment. Interest rates are important because they affect individual choices regarding whether to spend or save and also they affect the decisions of business organizations on whether to expand operations by developing more facilities or save by buying treasury bonds. Changing interest rates impact economic decisions, such as whether to consume or save. When the Central Bank finds it necessary to slow down the economy, it tightens monetary policy by raising interest rates. The normal result is a decrease in business and household spending (especially that financed by credit or borrowing) (Saunders and Cornett, 2008). For instance, in Kenya in the year 2011, movements in interest rates, inflation and exchange rates presented real dangers to economic stability. The economy endured steep inflationary pressures and exchange depreciation for about 9 months in 2011. This started with the build-up in inflationary pressures early in the year, then the onset of exchange rate depreciation around April 2011, followed by a rise in interest rates. Notably, inflation rose from 4.51 in January to 19.7 percent by November 2011. Kenya's shilling depreciated from about Ksh. 81 to Ksh. 101 to the US dollar in October 2011. To address these problems the Central Bank of Kenya (CBK) belatedly increased the Central Bank Rate (CBR) to 11 percent in October 2011. On November 1, 2011 the CBK again raised the CBR rate to 16.5 percent from 11 percent. Banks in their characteristic style increased their lending to



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While the primary goal of these shock measures was to and the weakening of the Kenya shilling, the results are mixed and uncertain. The exchange rate appreciated to trade at about Ksh. 89-90 to the US dollar but inflation rose to 19.7 percent in November 2011. The largely cost-push and supply side inflationary pressures could not ease up with these monetary policy measures, so the CBK on December 1, 2011 once again increased the CBR to 18 percent (Central Bank of Kenya (CBK), 2012).

High interest rates are likely to curb business investments and innovation. Rising interest rates could also increase loan defaults in the banking system and bank vulnerability, drive the cost push inflation due to medium term increase in prices associated with higher costs of business financing (Central Bank of Kenya (CBK), 2012). Conversely, if business and household spending declines to the extent that the Central Bank finds it necessary to stimulate the economy, it allows interest rates to fall (an expansionary monetary policy). The drop in rates promotes borrowing and spending (Saunders and Cornett, 2008). The lower interest rates give companies an opportunity to borrow money at lower rates, which allows them to expand their operations and also their cash flows. When interest rates are declining, the economy is expanding in the long run, so the risk associated with investing in a long-term corporate bond is also generally lower (Saunders and Cornett, 2008).

The seminal works of McKinnon (1973) and Shaw (1973) argue that high real interest rates tend to encourage savings whilst savings determine investment. Interest rate liberalization and low inflation can therefore promote capital accumulation and economic growth in less developed countries.



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Performance refers to how well a company is using its resources to make profits or create shareholder value. Financial measures are expressed in monetary units. The techniques used for analytical purposes include; ratio analysis, trend analysis and cross sectional analysis. A ratio is a mathematical expression of an amount in terms of another. Chandra (2005) noted that ratio analysis gives an objective picture of a company's financial performance because ratios eliminate the size effect. According to Winfield and Curry (1994), financial ratios can be grouped into five broad categories namely; profitability, liquidity, leverage, turnover and valuation ratios.

The study will utilize profitability ratios to analyze financial performance of firms listed at the NSE. Profitability ratios consist of tests used to evaluate a firm's earning performance. The major types of profitability ratios are calculated in relation to sales and investments. Profitability in relation to sales ratios includes; gross profit margin, net profit margin, contribution ratio and operating expenses ratio while profitability in relation to investments includes; return on investments, return on equity and return on total assets.

1.1.3 Relationship between Interest Rates and Financial Performance

When the central bank increases the base rate, banks increase the rates that they charge to their customers to borrow money. Individuals are affected through increase in credit card and mortgage interest rates, especially if they carry a variable interest rate. This has the effect of decreasing the amount of money consumers can spend, save or invest. People will have to pay bills, and when those bills become more expensive, households are left with less disposable income. This means that people



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money, which will affect business revenues and profits

Prevailing interest rates affects the financial performance of firms as was observed in the research by Wolfgang and Opfer (2003) when they compared the financial performance of financial institutions and five other industries and found out that financial institutions have a greater sensitivity to changes in long term interest rates.

Fama and French in their 1998 test for the effect of debt in the firm's capital structure find that the coefficient on the interest expense variable has a negative sign, this indicates that interest negatively affects the financial performance of a firm which contradicts the prediction of MM's second proposition thus concluding that value of a levered firm is actually less than that of unlevered firm.

A rise in the interest rates affects the valuation of stocks. The rise in the value of stocks raises the expectations of the market participants, who demand better returns to commensurate with the increased returns on bonds (Musa, 2011). The seminal works of McKinnon (1973) and Shaw (1973) argue that high real interest rates tend to encourage savings whilst savings determine investment. Interest rate liberalization and low inflation can therefore promote capital accumulation and economic growth in less developed countries. Interest rate liberalization was introduced in Kenya in 1992 with the objective of keeping the general level of interest rates positive in real terms in order to encourage savings and to contribute to the maintenance of financial stability; to allow greater flexibility and encourage greater competition among the banks and non-bank financial institutions to enhance efficient allocation of resources, to reduce the differential to maximize lending for banks and non-bank financial institutions. With liberalization, the interest rate policy aimed to harmonize the

Commercial banks and NBFIs by removing the differential in lending rates to allow greater flexibility and encourage greater competition in interest rate determination so that the needs of both borrowers and lenders could be better met through the cooperation of market forces and to maintain the general positive levels of interest rates in real terms in order to encourage the mobilization of savings and contribute to the maintenance of financial stability (Kithinji, 2012)

Different researchers have observed varied relationships between interest rates and financial performance of a firm. Some have argued that high interest rates are likely to curb business investments and innovation. Rising interest rates could also increase loan defaults in the banking system and bank vulnerability, drive the cost push inflation due to medium term increase in prices associated with higher costs of business financing and affect business revenues and profits negatively. The effects of interest rates on the financial performance of a firm may differ depending on diverse factors such as the amount of debt in the firm's capital structure, the sector of the economy in which the firm operates and the rate at which a firm acquires its debt capital.

1.1.4 Nairobi Securities Exchange

In Kenya, dealing in shares and stocks started in the 1920's. In 1951 a professional stock broking firm was established and in 1954 the Nairobi Stock Exchange was registered under the Societies Act. In 1988, the first privatization through the NSE occurred, of Kenya Commercial Bank and on February 18, 1994, NSE was rated by the International Finance Corporation (IFC) as the best performing market. A



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Settlement system (DASS) was set up in 1994 and the
was increased with the licensing of 8 new brokers.

In 1996, Kenya Airways privatization occurred and the team involved was awarded the World Bank Award for Excellence for 1996. On Monday 11 September 2006 live trading on the automated trading systems of the Nairobi Stock Exchange was implemented. The East African Securities Exchanges Association came into being in 2004 and trading hours increased from two to three hours. An MoU between the Nairobi Stock Exchange and Uganda Securities Exchange in November 2006 allowed listed companies in both exchanges to dualist.

A Wide Area Network (WAN) platform was implemented in 2007 and the Complaints Handling Unit (CHU) was launched in August 2009. NSE marked a milestone in December 2009, by uploading all government bonds on the Automated trading System (ATS). In 2011, the Nairobi Stock Exchange Limited changed its name to the NSE Limited, equity settlement cycle moved from the previous T+4 settlement cycle to the T+3 settlement cycle and it converted from a company limited by guarantee to a company limited by shares. In October 2011, the Broker Back Office commenced operations and in November 2011 the FTSE NSE Kenya 15 and FTSE NSE Kenya 25 Indices were launched.

As of December 2012, firms listed at the NSE were sixty one, representing ten sectors of the economy including; agricultural, Commercial and services, Telecommunication and technology, automobiles and accessories, Banking, Insurance, Investment, Manufacturing and allied, Construction and allied and energy and petroleum.

Interest rates affect firms' incentive to raise capital and invest (Berk, DeMarzo and Harford, 2009). This is because higher interest rates tend to shrink the set of positive NPV investments available to firms. Thygeson, (1995) found that calculating the inherent value of a company by the cash flow discounting model in a high interest rate regime yields a two-fold impact. There is a reduction in the cash flows due to lower profitability, and a higher discounting rate due to higher interest rate regime. This leads to a relatively lower intrinsic value of the company.

High interest rates could prevent establishment of new businesses. For instance, if a start up raises capital at say 20% interest rate, it would need to charge larger margins than this to service the loan and stay afloat. Ongweso, (2006) while considering the relationship between interest rates and non performing loans established a positive relationship. This indicates that when interest rates increase, risk of default increases as a result of decreased profitability of the borrowers.

High interest rates lead to fall in business profits, fall in investment, which inevitably leads to lower economic growth, worsening unemployment situation and poverty. High interest rates may also lead to higher market prices associated with rising costs of production (also known as cost-push inflation). This happens when companies increase their mark ups to compensate for costly bank financing. This is a special case where rising interest rates could reduce the effectiveness of monetary measures to tame inflation. Thus, supply constraints such as food supply problems or cost-push related drivers of inflation such as high fuel prices could keep inflation high and potentially lead to a more worrisome scenario of high inflation and low growth. High interest rates may also have some income distribution aspects. For example, high



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tionately affect the middle class who ordinarily are less
ion. If this effect comes through, then depressed middle

class consumption demand could sharply undo employment gains and poverty reduction efforts since 2003.

High interest will also have negative effect on the banking sector. For instance, already the interbank lending is about 30 percent and quite unstable. This implies that some banks are accessing operational funds at very high rates. In addition, the recent increase in the cash reserve ratio will further strain banks and probably affect their profitability. The high interest rates have also brought to the fore the unusually wide interest rate spreads in Kenya's banking system. Recent information shows that savings rates are about 2 percent while banks base lending rates have reached 20-25 percent in November 2011. Indeed, the interest rate spreads widen whenever base lending rates go up guaranteeing banks supernormal profits. Notice, that historical spreads were as high as they are today during economic turmoil of 1990s. Further, customer deposits constitute about 75 percent of banks lent funds. Thus, in a way banks tend to make more money during economic volatility when everyone doesn't (Central Bank of Kenya (CBK), 2012). Bett, (1992) observed that failed banks were lending at high interest rates to mainly high risk operators who were unable to pay. He found out that loan portfolio deteriorate as banks keep on lending to their major big borrowers because they fear that if they fail, the bank will equally follow suit.

Central banks use the relationship between interest rates and investments when trying to guide the economy. They lower interest rates in attempts to stimulate investment if the economy is slowing, and they will raise interest rates to reduce investment if the



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inflation is on the rise (Berk, DeMarzo and Harford,

High interest rates have remained a macroeconomic problem that has been difficult to eliminate. Economic observers and academicians in Kenya have pointed out that high interest rates are regressive to the economic development of the country. The CBK has attempted to correct the situation but the policy definition and design has not been appropriately designed. (Musa, 2011).

Kenya's economic salvation will come from its entrepreneurs and if the counties want to generate new wealth, the single best thing they can do is to support and enable their budding business folk. Local banks have identified small and medium sized entrepreneurs as their most attractive target (Bindra, 2013). There is need to determine the appropriate interest rates to stimulate economic development in the country. While the researches done in the area indicate that high interest rates lead to fall in business profits, fall in investment, which inevitably leads to lower economic growth, worsening unemployment situation and poverty, a study to establish the relationship between interest rates and financial performance of firms has not been done hence this research will bridge this research gap.

1.3 Objective of the study

The objective of the study was to assess the nature of the relationship between interest rates and financial performance of firms listed at the NSE.



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The results will be useful to the government in setting interest rates to appropriately influence the level of borrowing and lending desired for economic development such as establishment of new businesses which assist in reducing unemployment. From the results obtained in the research, the management of a firm will be able to make informed decision on borrowing and lending to influence the financial performance of their firms positively. Investors can use the results obtained from the research to make decisions on which sectors of the economy to invest in at different levels of interest rates.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will explore the various theories on interest rates, financial performance and the relationship between interest rates and financial performance. The chapter also delves into the empirical studies of similar studies that have been carried out by various researchers elsewhere that have a bearing on this particular study. The chapter enumerates the general issues in the field that are deemed necessary in the understanding of the relationship between interest rates and the financial performance of firms.

2.2 Interest Rate Theories

2.2.1 Expectations Theory

The key assumption behind this theory is that buyers of securities do not prefer securities of one maturity over another. In this case buyers will not hold any quantity of securities if its expected return is less than that of another security with a different maturity. Securities with this characteristic are referred to as perfect substitutes. This means that if securities with different maturity are perfect substitutes, the expected returns on these securities must be equal. The interest rate of a long-term security will equal an average of the short-term interest rates that people expect to prevail over the life of the long-term security.

Other expectations that will influence securities demand will include expectations on political conditions, expected inflation levels, among others (Auerbach, 1988). The

Professor Lutz and is based on the assumptions that
knowledge about the future short term interest rates, there are
no taxes or other costs involved in holding or trading and investors are assumed to be
profit maximizes. With these assumptions, the theory comes to the conclusion that a
long term interest rate is an average of the expected future rates on short term bonds.
Ignoring the compound interest factor, this average will be a simple average. If the
long term rate of interest is an average of the short term rates of interest, if the short
term interest rates rise, the average will also rise and the long term interest rate will
also rise. Thus, the long term rate always moves in the same direction in which the
short term rates move. However, fluctuations in the long term rate will be lower than
the fluctuations in the short term rates.

2.2.2 Liquidity Preference Theory

According to this theory, investors will always prefer short term securities to long
term securities. The theory asserts that investors will not hold securities that are
outside their preferred habitats (maturity preference) without an additional reward for
it. Investors will only hold long-term securities if they are compensated with a
premium for the lower degree of liquidity. The key assumption of this theory is that,
investors regard securities of different maturities to be substitutes, but not perfect
substitutes (Auerbach, 1988). Therefore according to liquidity preference theory, the
yield curve will always be upward sloping.

The theory is based on the observation that, all else being equal, people prefer to hold
on to cash (liquidity) and that they will demand a premium for investing in non liquid
assets such as bonds, stocks and real estate. The theory suggests that the premium
demanded for parting with cash increases as the period (term) for getting the cash

the increase of the premium however slows down with the
returning the cash back. In the language of financial trading,
this theory is expressed as "forward rates should exceed the future spot rates" (Musa,
2011).

2.2.3 Segmented Market Theory

The key assumption in the segmented market theory is that securities of different maturities are not Substitute at all. Segmented market theory is at the opposite extreme from expectation theory which assumes securities of different maturities are perfect substitutes. This theory sees market for different securities as completely separate and segmented. The interest rates for each security with different maturity are then determined by the supply of and demand for the securities with other maturities (Auerbach, 1988).

This theory asserts that securities of different maturities are poor substitutes for one another. According to Lloyds, (1979) this is true from the point of view of both lenders and borrowers. Given the institutional factors that determine the segment of the maturity spectrum in which buyers and sellers of security will operate, there exist restrictions on the degree of substitutability among securities of different maturity.

2.3 Operationalisation of the variables of interest rate

Just like any other price, interest rates are set by market forces based on the relative supply and demand of funds. This supply and demand is in turn determined by the willingness of individuals, banks and firms to borrow, save and lend. Changes in interest rates affect consumer decisions such as how much to borrow. Because they change the present value of future cash flows, changes in interest rates also have a

Investing decisions within the firm (Berk, DeMarzo and Harford, 2009). Supply and demand interact, they determine a price (the equilibrium price) that tends to be relatively stable. If the supply of credit from lenders rises relative to the demand from borrowers, the price (interest rate) will tend to fall as lenders compete to find use for their funds. If demand rises relative to supply, the interest rate will tend to rise as borrowers compete for increasingly scarce funds (Musa, 2011). Market forces work to establish equilibrium interest rate. If interest rate is lower than the equilibrium, then the quantity demanded would exceed the quantity supplied. Demand would exceed supply so there would be a shortage of loanable funds. This shortage would encourage more households to save money as the interest rate rises. Households would continue to save until the supply equaled the demand.

Inflation affects how we evaluate interest rates being quoted by banks and other financial institutions. If prices in the economy are also increasing due to inflation, the nominal interest rate does not represent the true increase in purchasing power that will result from investing. When inflation rate is high, a higher nominal rate is needed to induce individuals to save (Berk, DeMarzo and Harford, 2009). Expected inflation affects both the demand and supply of loanable funds. The effects of expected inflation are quantified in the Fisher Equation. When households expect the price level to rise, which means future purchases will buy less, then households will demand more credit now in order to beat the inflation. Likewise, lenders will want a higher interest rate to compensate them for a lower real return in the future. The interest rate will rise to the amount of expected inflation.

Interest rate changes have a major effect on investors and borrowers. If interest rates are expected to rise, long-term interest rates will tend to be higher than short-term rates to attract investors and if interest rates are expected to fall, long-term rates will tend to be lower than short-term rates to attract borrowers (Berk, DeMarzo and Harford, 2009).

From a banker's point of view, interest rates are based on risk assessment. This is understandable because customer confidence is based on containment of the risk that they will lose their money (Mishkin, 1996). Thus as the risk of investment increases, interest rate required to fund the investment also increases.

Simple interest rate is expressed as a percentage of the principal. Yield to Maturity is the simple interest rate that equates the present value of payments received from a debt instrument to the price or value of that debt instrument today. Lending interest rate is thus a ratio of the total required fee a borrower must pay a lender to obtain the use of credit for a stipulated time period divided by the total amount of credit made available to the borrower. By convention, the interest rate is usually expressed in percent per annum.

2.4 Measurement of Financial Performance

Financial analysis is the process of critically examining in detail accounting information given in the financial statements and reports. It is the process of evaluating relationships between component parts of financial statements to obtain a better understanding of the firm's financial position. The analysis involves selection from the total information available those relevant to the decision under consideration, arranging the information in a manner that would bring out the relationship and a study of the relationships and interpretation of the results thereof. The techniques



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ratio analysis, trend analysis and cross sectional analysis

An interpretation and analysis of financial accounting statements provide a framework for making informed judgments about a firm's financial performance. Financial performance can be evaluated based on accounting data and market based approaches. Accounting data based method utilizes accounting data while market based methods are based on what the shareholders can fetch in case they sell their shares. According to Kaplan and Norton (1992), it may be unfair to use share prices to evaluate financial performance because share prices incorporate external market factors which are beyond the manager's control. Where markets are efficient, security prices can be used to measure a firm performance and where markets are not well developed, accounting data provides a better measure of performance.

The techniques used for analytical purposes include; ratio analysis, trend analysis and cross sectional analysis. A ratio is a mathematical expression of an amount in terms of another. Chandra (2005) noted that ratio analysis gives an objective picture of a company's financial performance because ratios eliminate the size effect. According to Winfield and Curry (1994), financial ratios can be grouped into five broad categories namely; profitability, liquidity, leverage, turnover and valuation ratios.

The study will utilize profitability ratios to analyze financial performance of firms listed at the NSE. Profitability ratios consist of tests used to evaluate a firm's earning performance. The major types of profitability ratios are calculated in relation to sales and investments. Profitability in relation to sales ratios includes; gross profit margin, net profit margin, contribution ratio and operating expenses ratio while profitability in



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es; return on investments, return on equity and return on

According to Gardner, Mills and Cooperman (2005), ROI and ROE are ratios commonly used to measure financial performance. ROI is a measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed a percentage or a ratio. ROI analysis compares the magnitude and timing of investment gains directly with the magnitude and timing of investment costs. A high ROI means that investments gains compare favourably to investment costs.

$$ROI = \frac{\text{Net Profit After Tax}}{\text{Net Assets or Capital Employed}}$$

ROE measures a corporation's profitability by revealing how much profit a company generates with the money the shareholders have invested. It tells the rate that shareholders are earning on their shares favourably to investment costs.

$$ROE = \frac{\text{Net Income}}{\text{Shareholders' Equity}}$$

ROE is a ratio that measures how efficiently a company uses its assets to produce earnings. A high ROE means that net income compare favourably to shareholders' investment. Chandra (2005) noted that ratio analysis gives objective picture of a company's financial performance because ratios eliminate the size effect. ROE will be adopted in this study being the measure of financial performance of the firms.

2.5 Empirical Studies

Fama and French (1998), test for the effect of debt in the firm's capital structure on the firm value using a regression analysis. In their regressions, firm value is regressed

...bles one of which is the firm's interest payments. Fama
...efficient on the interest expense variable has a negative
sign, which contradicts the prediction of MM's second proposition thus concluding
that value of a levered firm is actually less than that of unlevered firm. In the
presence of taxes Modigliani and Miller II (1963) argued that a levered firm
commands a higher value as compared to a similar unlevered firm because interest is
a tax allowable deductible expense whereas dividends aren't allowed for tax
purposes, thus the total after tax income available to investors is higher in a levered
firm. MM states that the required return on equity (K_e) increases at a rate that is
directly proportional to the debt to equity ratio (D/E) at market value.

Friend and Lang (1988) in a study of 984 NYSE firms between 1975 ó 1983 on the
relationship between capital structure and firm value made two conclusions; the
amount of debt in the firm's capital is inversely related to firm profit ability and the
variability in firm profitability. The former result is inconsistent with MM as
normally, the more profitable the firm is, the more debt financing the firm employ in
order to maximize the value of the interest tax shield. The latter result is consistent
with MM as the greater a firm's profit variability, the less valuable the interest tax
shield generated by the firm's debt and the smaller the amount of debt the firm should
employ in its capital structure.

Graham (2000) attempted to quantify the tax benefits of debt financing by integrating
the firm's tax function over the amount of the firm's interest expense. He found that
the interest tax shield accounts for, on average 9.7% of the market value of his sample
firms. Using the last term on the right hand side of the equation (tD), he estimated that
the value of the interest tax shield is 13.2% of firm value. The difference in the two

the interest tax shield implies that MM may be
e interest tax shield.

Wolfgang (2003) sought to analyze the importance of various macroeconomic factors in explaining the return structure for six German industry indices for the period 1974 to 2000. The objective was to find out whether financial institutions reveal a different behavior relative to other industries indices. A comparison of the results revealed greater sensitivity of the financial institutions to changes in long term interest rates.

Saunders and Schumacher (2000) in a study in six European countries and the US using data from 614 banks for the period 1988 to 1995 found out that the regulatory requirements and interest rate volatility had significant effects on bank interest rate margin across these countries.

McKinnon (1973) and Shaw (1973) developed theoretical framework that a repressed economy interferes with economic development in various ways. First, in a repressed economy, the saving vehicles are not well developed and the returns on savings are negative and unstable. Secondly, financial intermediaries that collect savings do not allocate them efficiently amongst competing uses. Thirdly, firms are discouraged from investing because poor financial policies reduce the returns to investment thus making them uncertain and as a result, growth is retarded. Financial repression in this context leads to artificially low deposit and loan rates that give rise to excess demand for loans and to non-price credit rationing.

Willem (1995) conducted a comparative empirical study between Ghana, Kenya, Zimbabwe and Nigeria. Kenya and Zimbabwe had the most advanced financial systems in Sub-Saharan Africa while Kenya and Ghana had Structural Adjustment Program (SAP) having been an ongoing process for more than a decade. Willem

3 months) deposit rates and long-term deposit rates from each of the four countries. The empirical findings established that: (i) lending rates initially adjusted more slowly than deposit rates, creating initial periods during which the gap between lending and deposit rates narrowed, and even became negative in the case of Zimbabwe, and (ii) the level and volatility of interest rates increased after liberalization.

In the Kenya case, the study established that interest rates in Kenya have been fairly stable and that a relatively constant gap had been maintained between lending and deposit rates for most of the period. However, it must be borne in mind that although Kenya was one of the first African countries to implement SAP, it was only in the 1991 that full interest rate liberalization took place. Since then, interest rates have been following a steep upward ascent, with the gap between loan deposit rates shrinking after interest rate liberalization.

Willem (1995) further revealed that for the Kenyan case, only changes in contemporaneous short term interest rates seemed to have any effect on long term interest rates, but the value of this parameter was smaller than 1 (0.69) which suggested a less than perfect correspondence between short and long term rates. Furthermore, the acceptance that lags of short term interest rates were insignificant suggested that long-term interest rates do not adjust sluggishly to short-term rates.

Ongweso (2006) while considering the relationship between interest rates and non performing loans established a positive relationship. This indicates that when interest rates increase, risk of default increases as a result of decreased profitability of the borrowers.



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study on the relationship between debt financing and the value of the NSE. The objective of the study was to find out

whether there exists a relationship between debt and the value of Kenyan firms listed at the NSE. She used a sample of 34 companies listed at the NSE for the period 1993 to 2001. She observed that there is weak relationship between debt and the value of the firm. Hence changes in the debt level may not have a significant effect on the value of the listed firms. Thus the findings from her study did not support the study conducted by Modigliani and Miller (1958/63). This is because there seems to be no significant relationship between debt and value of the firm.

Bett (1992) while looking at financial performance of the banking sector in Kenya established a multivariate analysis model for predicting financial failure in the Kenyan banking system by discriminating against various performance ratios. He found out that loan portfolio deteriorate as banks keep on lending to their major big borrowers because they fear that if they fail, the bank will equally follow suit. He observed that failed banks were lending at high interest rates to mainly high risk operators who were unable to pay.

Musa (2011) while looking at the Relationship between Interest Rates and Financial Performance of Commercial Banks in Kenya using regression analysis established that long term interest rates have a significant influence on the financial performance of banks in Kenya.

2.6 Summary

Interest rates have been observed to have diverse impact on the financial performance of a firm. High interest rates are likely to curb business investments and innovation. Rising interest rates could also increase loan defaults in the banking system and bank



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push inflation due to medium term increase in prices of business financing and affect business revenues and profits negatively. When interest rate is raised, the general effect is to lessen the amount of money in circulation, which works to keep inflation low. On the other hand, lower interest rates give companies an opportunity to borrow money at lower rates, which allows them to expand their operations and also their cash flows. When interest rates are declining, the economy is expanding in the long run. Appropriate interest rates should therefore be set to maintain inflation at desired levels while encouraging economic development.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods and procedures the researcher adopted in conducting the research. It covers the research design, the population, the sample, type of data needed and the source of the data. The chapter also explains how the data is analyzed and conclusions arrived at.

3.2 Research Design

The nature of this study is a causal study. Causal designs are used to show the impact of one variable on another. This is because we have at least two major variables of interest, the cause and the effect. The cause is the interest rates and the effect is the financial performance of a firm. Mugenda (2003) explains that causal studies explore relationships between variables and this is consistent with this study which seeks to assess the nature of the relationship between interest rates and financial performance of firms listed at NSE.

3.3 Population of the study

The population of the study consisted of all the 56 firms consistently listed at the Nairobi Securities Exchange for the five years 2008 through 2012 inclusive. The financial institutions sectors comprising of thirteen firms were excluded from detailed analysis and therefore the target population consisted of the remaining 43 firms. A census study of the target population was done. Listed firms were considered suitable for this study due to the credibility and authenticity of such data. Refer to Appendix I for the list of the population of the study.

The research was based on secondary data. Data on interest rates comprised of commercial banks' weighted average lending rates and was obtained from publications by the Central Bank of Kenya. Data on financial performance comprised of market rate of return derived from NSE 20 share index and return on equity of individual firms computed on data obtained from published financial statements and management accounts of individual firms sourced from financial market participants like NSE and CMA, the companies' finance departments, the companies' websites, financial analysts amongst other sources. The study will cover five years from 2008 to 2012 inclusive.

3.5 Data Analysis

Data analysis was done in two levels. Firstly by using the market return and secondly using the return on equity. Linear regression analysis was used to analyze the data. Regression analysis is used in finding out whether an independent variable predicts a given dependent variable (Zinkmund, 2003). The regression model used was of the form;

$$Y = a + bx \quad (1)$$

Financial performance was regressed against interest rates. The regression equation was as follows.

$$Y = a + (IR) \cdot b \quad (2)$$

Where; Y was the profitability measure, a is the value of profitability when IR is Zero, b is the regression coefficient or change induced on profitability by IR and IR is the



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ability will be regressed against interest rates to assess regression equation will be as follows;

$$\mu = \mu + \mu (IR) \quad \text{í í í í í í í í í í í í í í í í í í í . (3)}$$

Where; μ is the mean industry profitability measure obtained by finding the mean of individual firms in the industry, μ is the value of industry profitability when IR is Zero, μ is the regression coefficient or change induced on profitability by IR and IR is the interest rates.

The regression coefficient, B, indicates if there is a relationship or not between interest rates and financial performance. If there is a relationship, B is a value other than zero and if there is no relationship, the regression coefficient will be zero. The sign on the regression coefficient B shows the nature of the relationship. If it's positive it means that as interest rates increases, financial performance increases and vice versa. The Pearson product moment correlation coefficient () was used to measure the strength of the relationship. The correlation coefficient ranges between +1 and -1 inclusive. When the correlation coefficient is between 0.5 and 1, it means that there is a strong positive relationship and vice versa. If it is between 0 and 0.5, it means there is a weak positive relationship and vice versa.

From the literature review, there appear to be a negative relationship between interest rates and financial performance of firms other than banks which some studies found a positive relationship. The relationship has however been considered not significant. The purpose of presentation of data is to highlight the results and to make data or results more illustrative through visual or pictorial presentation in order to make it simple and easy to understand (Mertens, 2005). Presentation of data was done in the form of tables. Descriptive data is provided in form of explanatory notes.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, results and discussion of the research findings. To achieve the objective of the study, SPSS was used to analyze the data. Linear regression was used to assess the nature of the relationship between interest rates and financial performance of firms listed at the Nairobi Stock Exchange.

4.2 Trends of Interest Rates and Financial Performance

The study sought to find out the trend of commercial banks' lending interest rates and financial performance over the five year period. Financial performance relates to all firms listed at the NSE. The table below shows the results.

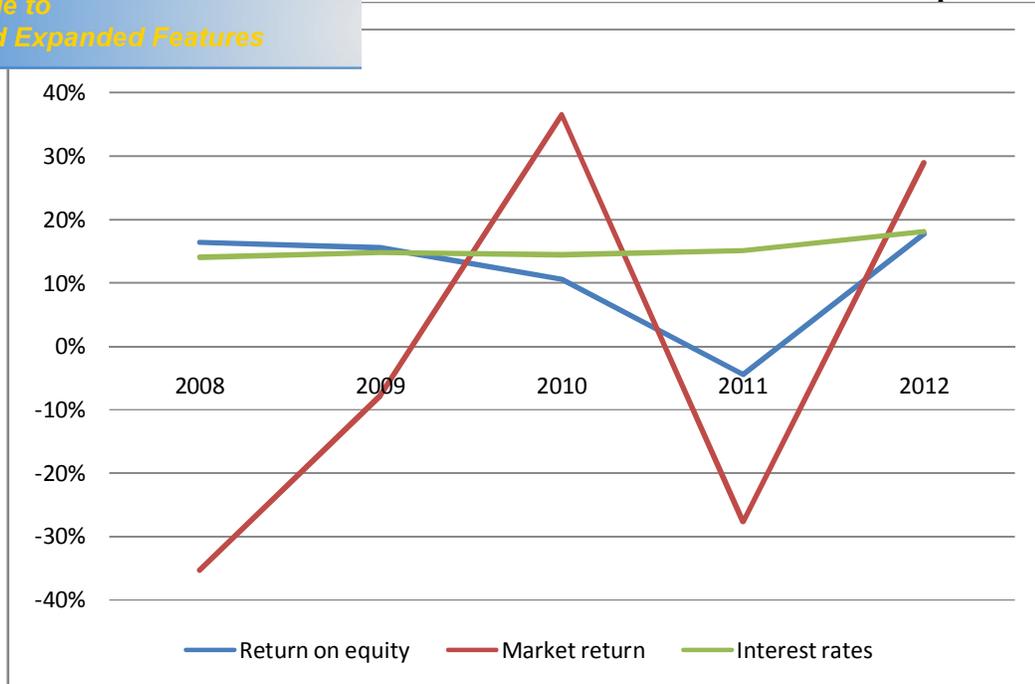
Table 4.1: Descriptive statistics for Interest Rates and Financial Performance.

	YEAR	2008	2009	2010	2011	2012	μ	δ	N
	Interest rates	14%	15%	14%	15%	18%	15.2%	1.64	5
1	Market return	-35%	-8%	36%	-28%	29%	-1.2%	32.4	5
2	ROE	16%	16%	11%	-4%	18%	11.4%	8.99	5

Source: Research data, 2013.

From table 4.1 above, it was observed that the average lending interest rates were on the increase in all subsequent years from the base year. The average lending interest rates increased from 14% in the year 2008 to 18% in the year 2012. Both market return and return on equity varied considerably over the research period. Market return was lowest in the year 2008 at -35% and highest in the year 2010 at 36%. Return on equity was lowest in the year 2011 at -4% and highest in the year 2012 at 18%. Market return and return on equity were observed to co move as shown in the graph below.

Interest rates and Financial Performance over the period.



Source: Research data, 2013.

As observed from the above graph, market return and return on equity appear to move together as indicated in the dip in the year 2011 followed by a rise in the year 2012. Market return movements are however more pronounced than the return on equity movements as observed in the sharp points in the market returns graph. Interest rates were on an upward movement on all subsequent years from 2008.

4.3 Regression analysis between Interest Rates and Financial Performance

The study sought to assess the nature of the relationship between commercial banks' lending interest rates and financial performance over the five year period. Data analysis was done in two levels. Firstly by using the market rate of return and secondly using the return on equity. The regression model of the form $Y = a + bx$ was fixed to the data. The following tables show the results.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.409 ^a	.168	-.110	34.15036

a. Predictors: (Constant), Interest rates

Table 4.2.1.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-123.926	158.689		-.781	.492
	Interest rates	8.074	10.392	.409	.777	.494

a. Dependent Variable: Market return

Source: Research data, 2013.

From tables 4.2.1.1 and 4.2.1.2 above, it was found that there is a positive relationship between interest rates and Market return. However, the relationship is not statistically significant as the correlation coefficient is less than 0.5 implying there is a weak positive relationship with interest rates accounting for 16.8% of the market return.

Return on Equity.

Table 4.2.2.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.264 ^a	.070	-.240	10.01110

a. Predictors: (Constant), Interest rates

Table 4.2.2.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.556	46.519		-.227	.835
	Interest rates	1.444	3.046	.264	.474	.668

a. Dependent Variable: Return on equity

Source: Research data, 2013.

From tables 4.2.2.1 and 4.2.2.2 above, it was found that there is a positive relationship between interest rates and return on equity. However, the relationship is not statistically significant as the correlation coefficient is less than 0.5 implying there is a

with interest rates accounting for 7% of the return on

4.4 Industry analysis of Trends of Financial Performance

The study sought to find out trends of financial performance for non financial institutions industries over the five year period. The table below shows the results.

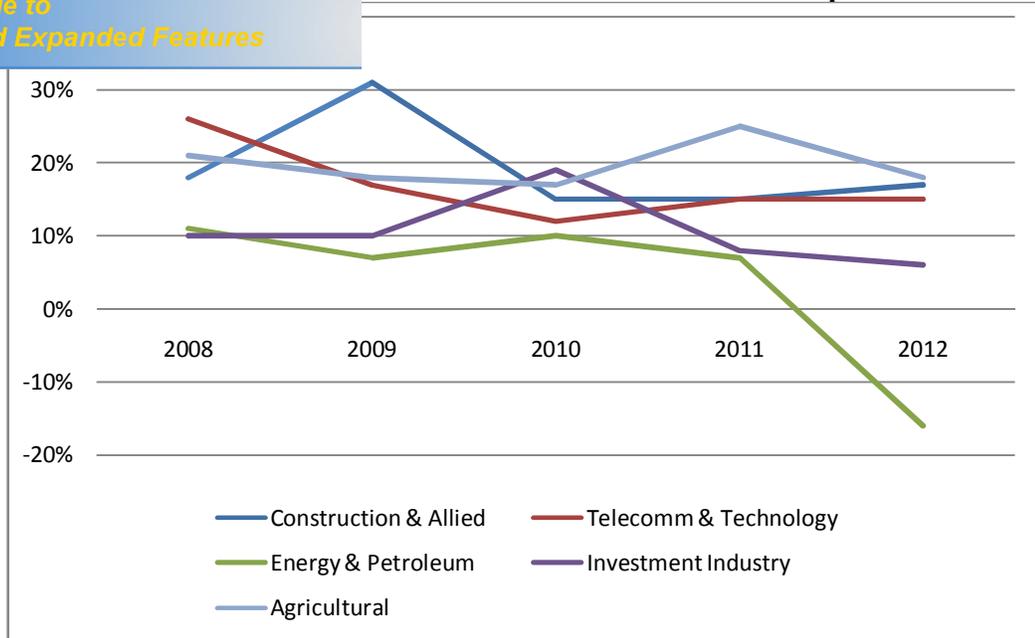
Table 4.3: Descriptive Statistics for Interest Rates and Industries' ROE.

	Industry	2008	2009	2010	2011	2012	μ	δ	N
	Interest rates	14%	15%	14%	15%	18%	15.2%	1.64	5
1	Constr. & Allied	18%	31%	15%	15%	17%	19.2%	6.72	5
2	Tele. & Techn	26%	17%	12%	15%	15%	17.0%	5.34	5
3	Energy & Petr.	11%	7%	10%	7%	-16%	3.8%	11.21	5
4	Investment	10%	10%	19%	8%	6%	10.6%	4.98	5
5	Commercial & Svs	15%	-35%	30%	20%	16%	9.2%	25.4	5
6	Automobiles & Acc.	13%	11%	-59%	21%	-6%	-4.0%	32.28	5
7	Agricultural	21%	18%	17%	25%	18%	19.8%	3.27	5
8	Man. & Allied	20%	73%	-6%	-159%	63%	-1.8%	93.54	5

Source: Research data, 2013.

From table 4.3 above, it was observed that return on equity for all industries varied considerably over the research period. For construction and allied industry, it was highest in the year 2009 at 31% and lowest in the years 2010 and 2011 at 15%, Telecommunication & Technology Industry had a highest in 2008 at 26% and lowest in 2010 at 12%, Energy & Petroleum Industry had a highest in 2008 at 11% and lowest in 2012 at -16%, Investment Industry had a highest in 2010 at 19% and lowest in 2012 at 6%, Commercial & Services Industry had a highest in 2010 at 30% and lowest in 2009 at -35%, Automobiles & Accessories industry had a highest in 2011 at 21% and lowest in 2011 at -59%, Agricultural industry had a highest in 2011 at 25% and lowest in 2010 at 17%, Manufacturing & Allied Industry had a highest in 2009 at 73% and lowest in 2011 at -159%.

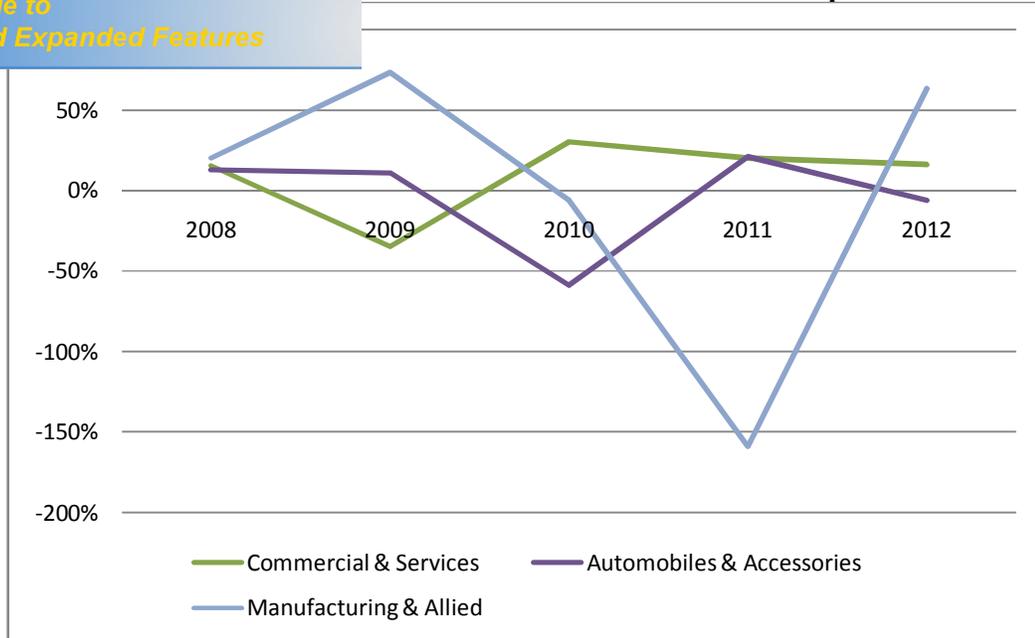
...s of Financial Performance over the period.



Source: Research data, 2013.

From graph 4.2 above, the financial performance of agricultural, construction and allied, investment and telecommunication and technology industries were found to be relatively stable and moving together over the period. The financial performance of Energy and petroleum industry however was however found to be below the other industries with the financial performance demonstrating a general downward movement.

...s of Financial Performance over the period.



Source: Research data, 2013.

As observed from the above graphs 4.3, financial performance of automobiles and accessories, commercial and services and manufacturing and allied industries varied considerably over the research period. Each of these industries' financial performance trends over the research period appears to move independent of the other industries.

4.5 Regression analysis of Interest Rates and ROE

The study sought to examine the relationship between commercial banks' lending interest rates and industrial financial performance over the five year period. The regression model of the form $Y = + x$ was fitted to the data. The following tables show the results.

Automobiles and accessories Industry.

Table 4.4.1.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.151 ^a	.023	-.303	36.84737

a. Predictors: (Constant), Interest rates

Source: Research data, 2013.

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-49.037	171.222		-.286	.793
	Interest rates	2.963	11.212	.151	.264	.809

a. Dependent Variable: Automobiles and accessories

Source: Research data, 2013.

From tables 4.4.1.1 and 4.4.1.2 above, it was found that there is a positive relationship between interest rates and ROE for the automobiles and accessories industry. The relationship is however not statistically significant as the correlation coefficient is less than 0.5 implying there is a weak positive relationship with interest rates accounting for 2.3% of the ROE for the industry.

Manufacturing and allied Industry.

Table 4.4.2.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.288 ^a	.083	-.223	103.44808

a. Predictors: (Constant), Interest rates

Table 4.4.2.2: Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-250.630	480.701		-.521	.638
	Interest rates	16.370	31.478	.288	.520	.639

a. Dependent Variable: Manufacturing and allied

Source: Research data, 2013.

From tables 4.4.2.1 and 4.4.2.2 above, it was found that there is a positive relationship between interest rates and ROE for the manufacturing and allied industry. The relationship is not statistically significant as the correlation coefficient is less than 0.5 implying there is a weak positive relationship with interest rates accounting for 8.3% of the ROE for the industry.

Industry.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.027 ^a	.001	-.332	7.76030

a. Predictors: (Constant), Interest rates

Table 4.4.3.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.889	36.060		.579	.603
	Interest rates	-.111	2.361	-.027	-.047	.965

a. Dependent Variable: Construction and allied

Source: Research data, 2013.

From table 4.4.3.1 and 4.4.3.2 above, it was found that there is a negative relationship between interest rates and ROE for the construction and allied industry. However, the relationship is not statistically significant as the correlation coefficient is less than -0.5 implying there is a weak negative relationship with interest rates accounting for 0.1% of the ROE for the industry.

Telecommunication and Technology Industry.

Table 4.4.4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.285 ^a	.081	-.225	5.90877

a. Predictors: (Constant), Interest rates

Table 4.4.4.1: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.074	27.457		1.132	.340
	Interest rates	-.926	1.798	-.285	-.515	.642

a. Dependent Variable: Telecommunication and Technology

Source: Research data, 2013.

From tables 4.4.4.1 and 4.4.4.2 above, it was found that there is a negative relationship between interest rates and ROE for the telecommunication and technology industry. However, the relationship is not statistically significant as the

than -0.5 implying there is a weak negative relationship for 8.1% of the ROE for the industry.

Agricultural Industry.

Table 4.4.5.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.177 ^a	.031	-.292	3.71766

a. Predictors: (Constant), Interest rates

Table 4.4.5.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.148	17.275		1.456	.241
	Interest rates	-.352	1.131	-.177	-.311	.776

a. Dependent Variable: Agriculture

Source: Research data, 2013.

From table 4.4.5 above, it was found that there is a negative relationship between interest rates and ROE for the agricultural industry. However, the relationship is not statistically significant as the correlation coefficient is less than -0.5 implying there is a weak negative relationship with interest rates accounting for 3.1% of the ROE for the industry.

Commercial and Services Industry.

Table 4.4.6.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.037 ^a	.001	-.331	29.32144

a. Predictors: (Constant), Interest rates

Table 4.4.6.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.926	136.250		.132	.904
	Interest rates	-.574	8.922	-.037	-.064	.953

a. Dependent Variable: Commercial and services

Source: Research data, 2013.

From tables 4.4.6.1 and 4.4.6.2 above, it was found that there is a negative relationship between interest rates and ROE for the commercial and services industry.

was not statistically significant as the correlation implying there is a weak negative relationship with

interest rates accounting for 0.1% of the ROE of the industry.

Energy and Petroleum Industry.

Table 4.4.7.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 ^a	.976	.968	2.00616

a. Predictors: (Constant), Interest rates

Table 4.4.7.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	106.259	9.322		11.399	.001
	Interest rates	-6.741	.610	-.988	-11.042	.002

a. Dependent Variable: Energy and petroleum

Source: Research data, 2013.

From tables 4.4.7.1 and 4.4.7.2 above, it was found that there is a negative relationship between interest rates and ROE for the energy and petroleum industry. The relationship is statistically significant as the correlation coefficient is greater than -0.5 implying there is a near perfect negative relationship with interest rates accounting for 97.6% of the ROE for the industry.

Investment Industry.

Table 4.4.8.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.660 ^a	.435	.247	4.32049

a. Predictors: (Constant), Interest rates

Table 4.4.8.2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41.000	20.076		2.042	.134
	Interest rates	-2.000	1.315	-.660	-1.521	.226

a. Dependent Variable: Investment

Source: Research data, 2013.

As above, it was found that there is a negative relationship between interest rates and ROE for the investment industry. The relationship is statistically significant as the correlation coefficient is greater than -0.5 implying there is a strong negative relationship with interest rates accounting for 43.5% of the ROE of the industry.

4.6 Summary

The results indicate that interest rates have been on the increase in all subsequent years from the base year. Firms' market return and return on equity have varied over the research period. Interest rates accounted for 16.8% of the market return and 7% of the return on equity. It was found that the effect of interest rates on financial performance was diverse among industries. For Automobiles and Accessories and Manufacturing and Allied industries, it was found that there is a positive relationship between interest rates and financial performance. However, the relationship is not statistically significant as the correlation coefficients are between 0 and 0.5 implying there is a weak positive relationship. For Construction & Allied, Telecommunication & Technology, agricultural industries and Commercial and Services, it was found that there is a negative relationship between interest rates and financial performance. However, the relationship is not statistically significant as the correlation coefficients are between 0 and -0.5 implying there is a weak negative relationship. For energy and petroleum industry, a near perfect negative relationship was found out with a correlation coefficient of -0.99 and the investment industry had a strong negative relationship with a correlation coefficient of -0.66.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusion and recommendations derived from the findings of the study. The chapter also presents the limitations that were encountered in the study with suggestions for further research.

5.2 Summary of Findings

The aim of the study was to assess the nature of the relationship between interest rates and financial performance for firms listed at the Nairobi Securities Exchange. All firms which have been continuously listed for the five years from 2008 through 2012 inclusive were considered in the study. Secondary data on commercial banks average lending interest rates were obtained from publications by the Central Bank of Kenya. Secondary data on firms' financial performance was obtained from publications by the Nairobi Securities Exchange and the firms' published financial statements.

The study found that interest rates have been on the increase in all subsequent years from the base year. Firms' market return and return on equity have varied over the research period. A positive relationship between interest rates and financial performance was found for both Market return and return on equity with interest rates accounting for 16.8% of the market return and 7% of the return on equity. However, the relationship is not statistically significant for both measures of performance.

On disaggregation of the firms and grouping the firms in their respective industries however, the study found that the relationship between interest rates and financial performance was diverse among industries. For energy and petroleum industry, a near

was found out while the investment industry had a strong
Commercial and Services, Automobiles and Accessories
and Manufacturing and Allied industries a weak positive relationship was established
while for Construction and Allied, Telecommunication and Technology and
agricultural industries, it was found that there is a weak negative relationship

5.3 Conclusion

Interest rate as the independent variable was linearly regressed with the dependent variable financial performance. The findings reveals that there is a positive relationship between interest rates and financial performance for both Market rate of return and return on equity when all firms are considered together. However, the relationship was not considered significant. On disaggregation of the firms and grouping the firms in their respective industries however, the study found that the relationship between interest rates and financial performance was diverse among industries. A near perfect negative relationship was found out in the energy and petroleum industry, while the investment industry had a strong negative relationship. Other industries recorded a weak positive relationship while a weak negative relationship was also established in some industries.

The findings are in congruence with other studies such as Willem (1995) who established that interest rates in Kenya have been following a steep upward ascent after interest rate liberalization. Fama and French (1998), test for the effect of debt in the firm's capital structure on the firm value using a regression analysis. Fama and French found that the coefficient on the interest expense variable had a negative sign. Ongweso (2006) while considering the relationship between interest rates and non performing loans established a positive relationship. This indicates that when interest



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... increases as a result of decreased profitability of the

Thus linear regression model can selectively be used to forecast financial performance for firms listed at the Nairobi Securities Exchange for firms in industries which recorded near perfect and strong negative relationships. Care must however be taken when applying the model to forecast financial performance for all firms and firms in the industries which recorded weak relationship and other variables affecting financial performance should be included in the model.

5.4 Recommendations

The findings of the study have an implication on the government in setting interest rates to appropriately influence the level of borrowing and lending desired for economic development such as establishment of new businesses which assist in reducing unemployment. From the results obtained in the research, the management of a firm will be able to make informed decision on borrowing and lending to influence the financial performance of their firms positively. Investors can use the results obtained from the research to make decisions on which sectors of the economy to invest in at different levels of interest rates.

5.5 Limitations of the study

The study was based on secondary data and hence inherently susceptible to the limitations of secondary data such as financial statements being subject to management misstatements, financial accounting information being affected by estimates, assumptions, standards and policies which vary among firms and these impairs comparability. The data used is historical and hence may not be relevant for



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ed was not adjusted for inflation hence the figures may

There was a constraint of resources such as time required to gather and analyze data of all firms listed at the Nairobi Securities Exchange and the cost of acquiring information. Data on some of the firms listed at the Nairobi Securities Exchange was not easily accessible. The researcher obtained data on eighty six percent of the target population and this was considered to be a representative sample of the entire population. The research was limited to firms listed at the Nairobi Securities Exchange. This research study did not exhaustively focus all the factors affecting financial performance of firms, rather it just explored the interest rates.

5.6 Suggestions for further research

The research was limited to firms listed at the Nairobi Securities Exchange, there is need to widen future research in this area to include unlisted firms. This research study did not exhaustively focus all the factors affecting financial performance of firms, rather it just explored the interest rates hence there is need for further research in this area to include other variables affecting financial performance such as leverage, liquidity position among others.

A similar study can be done for an extended time period such as a comparison of the relationship between pre and post interest rate liberalization in Kenya. A similar study can also be done analyzing the long run effect of interest rates on financial performance. The study can also be carried out focusing on specific industries to obtain detailed relationships between the variables.

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APPENDIX I

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LIST OF COMPANIES LISTED ON NSE during the study period.

		INDUSTRY
1	Rea Vipingo Plantations	Agricultural
2	Sasini Ltd	Agricultural
3	Kakuzi	Agricultural
4	Limuru Tea Co.	Agricultural
5	Kenya Orchards	Agricultural
6	Williamson Tea Kenya	Agricultural
7	Eaagads	Agricultural
8	Kapchorua Tea Co.	Agricultural
9	Sameer Africa	Automobiles & Accessories
10	Car & General (K)	Automobiles & Accessories
11	CMC Holdings	Automobiles & Accessories
12	Marshalls (E.A.)	Automobiles & Accessories
13	CFC Stanbic of Kenya Holdings	Banking
14	Diamond Trust Bank	Banking
15	Equity Bank	Banking
16	Housing Finance Co.	Banking
17	Kenya Commercial Bank	Banking
18	National Bank of Kenya	Banking
19	NIC Bank	Banking
20	StandardChartered	Banking
21	Co-operative Bank	Banking
22	Barclays Bank	Banking
23	Kenya Airways	Commercial & Services
24	Nation Media Group	Commercial & Services
25	Standard Group	Commercial & Services
26	TPS EA (Serena)	Commercial & Services
27	Uchumi Supermarket	Commercial & Services
28	ScanGroup	Commercial & Services
29	Express ltd	Commercial & Services
30	Hutchings Biemer	Commercial & Services
31	Athi River Mining	Construction & Allied
32	Bamburi Cement	Construction & Allied

		Construction & Allied
		Construction & Allied
		Construction & Allied
36	KenGen	Energy & Petroleum
37	KenolKobil Ltd	Energy & Petroleum
38	KP&LC	Energy & Petroleum
39	Total Kenya	Energy & Petroleum
40	Pan Africa Insurance	Insurance
41	Jubilee Holdings	Insurance
42	Kenya Re Corporation	Insurance
43	Centum Investment Co.	Investment
44	Trans-Century	Investment
45	Olympia Capital Holdings	Investment
46	City Trust	Investment
47	East African Breweries	Manufacturing & Allied
48	Mumias Sugar Co.	Manufacturing & Allied
49	Eveready EA	Manufacturing & Allied
50	B.O.C Kenya	Manufacturing & Allied
51	BAT Kenya	Manufacturing & Allied
52	A.Baumann & Co.	Manufacturing & Allied
53	Carbacid Investment	Manufacturing & Allied
54	Unga Group	Manufacturing & Allied
55	AccessKenya	Telecommunication & Technology
56	Safaricom	Telecommunication & Technology

Source: Nairobi Securities Exchange website, 2013

APPENDIX II

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Interest Rates, ROE and results of regression analysis.

		2008	2009	2010	2011	2012	B	
	Interest rates	14%	15%	14%	15%	18%		
1	CFC Stanbic Holdings	14%	-1%	2%	1%	15%	2.11	0.5
2	Diamond Trust Bank	22%	21%	29%	22%	21%	-1.02	-0.5
3	Equity Bank	19%	20%	27%	28%	26%	0.74	0.3
4	Housing Finance Co.	4%	12%	9%	14%	13%	1.44	0.6
5	KCB	17%	20%	21%	22%	21%	0.44	0.4
6	NBK	20%	21%	20%	15%	7%	-3.30	-0.9
7	NIC Bank	20%	17%	22%	22%	22%	0.31	0.2
8	StandardChartered	30%	38%	28%	28%	26%	-0.93	-0.3
9	Co-operative Bank	17%	18%	22%	25%	25%	1.35	0.6
10	Barclays Bank	27%	27%	35%	30%	30%	-0.17	-0.1
11	Pan Africa Insurance	-8%	10%	32%	21%	27%	3.76	0.4
12	Jubilee Holdings	-15%	21%	36%	21%	26%	3.63	0.3
13	Kenya Re Corporation	19%	12%	17%	10%	23%	1.56	0.5
14	Athi River Mining	23%	51%	17%	20%	17%	-1.35	-0.2
15	Bamburi Cement	17%	22%	18%	27%	39%	5.31	1.0
16	E.A.Cables	35%	36%	31%	13%	30%	-0.46	-0.1
17	E.A.Portland Cement	13%	34%	-5%	0%	-15%	-5.41	-0.5
18	AccessKenya	20%	13%	-1%	10%	12%	0.57	0.1
19	Safaricom	32%	21%	24%	20%	18%	-2.31	-0.7
20	KenGen	9%	3%	5%	2%	3%	-0.87	-0.5
21	KenolKobil Ltd	14%	10%	13%	15%	-76%	-23.17	-1.0
22	KP&LC	7%	12%	13%	11%	10%	-0.06	0.0
23	Total Kenya	14%	5%	10%	1%	-1%	-3.04	-0.8
24	Centum Investment	11%	5%	20%	18%	5%	-2.57	-0.6
25	Trans-Century	10%	14%	35%	7%	13%	-2.02	-0.3
26	Olympia Capital Hld.	6%	11%	1%	5%	6%	0.48	0.2
27	City Trust	0%	1%	0%	0%	-1%	-0.28	-0.6
28	Kenya Airways	17%	-50%	16%	16%	2%	-2.52	-0.1
29	Nation Media Group	30%	24%	28%	32%	36%	1.85	0.7
30	Standard Group	29%	21%	28%	28%	26%	-0.50	-0.3
31	TPS EA (Serena)	5%	11%	30%	8%	4%	-3.20	-0.5

		-9%	-234%	57%	17%	10%	1.28	0.0
		15%	18%	19%	21%	15%	-0.61	-0.4
		7%	6%	1%	4%	6%	0.48	0.3
35	Car & General (K)	19%	15%	15%	16%	13%	-0.98	-0.7
36	CMC Holdings	19%	15%	7%	-4%	2%	-2.57	-0.5
37	Marshalls (E.A.)	19%	10%	-	67%	-42%	14.35	0.2
38	Rea Vipingo Plant.	19%	11%	4%	36%	19%	1.50	0.2
39	Sasini Ltd	49%	7%	21%	19%	0%	-8.26	-0.7
40	Kakuzi	18%	21%	17%	23%	14%	-1.07	-0.5
41	Limuru Tea Co.	23%	48%	12%	27%	42%	5.61	0.6
42	Williamson Tea (K)	-4%	4%	25%	21%	18%	1.87	0.3
43	EABL	42%	36%	38%	34%	40%	0.19	0.1
44	Mumias Sugar Co.	13%	16%	14%	28%	13%	-0.44	-0.1
45	Eveready EA	5%	7%	2%	-44%	12%	3.02	0.2
46	Kenya Orchards	47%	233%	-77%	-1032%	202%	70.50	0.2
47	B.O.C Kenya	12%	12%	12%	11%	14%	0.54	0.8
48	BAT Kenya	47%	47%	47%	48%	46%	-0.28	-0.6

Source: Research data, 2013.